Exhibit 23

Paper No. _____
Filed: July 21, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

Petitioner,

v.

NEONODE SMARTPHONE LLC,

Patent Owner.

Case No. IPR2021-01041
U.S. Patent No. 8,095,879

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

Federal Cases

Board Decisions

LIST OF EXHIBITS

Exhibit	Description
Ex-1001	U.S. Patent No. 8,095,879 ("the '879 patent")
Ex-1002	File History of U.S. Patent No. 8,095,879
Ex-1003	Declaration of Jacob O. Wobbrock, Ph.D.
Ex-1004	CV of Jacob O. Wobbrock, Ph.D.
Ex-1005	George G. Robertson, Buttons as First Class Objects on an X Desktop, *UIST: Proceedings of the ACM Symposium on User Interface Software and Technology: Hilton Head, South Carolina, USA*, pp. 35-44 (Nov. 11-13, 1991) ("Robertson")
Ex-1006	U.S. Patent No. 7,768,501 to Maddalozzo Jr. et al. ("Maddalozzo")
Ex-1007	U.S. Patent No. 5,745,717 to Vayda et al. ("Vayda")
Ex-1008	U.S. Patent No. 5,870,092 to Bedford-Roberts ("Bedford-Roberts")
Ex-1009	U.S. Patent No. 6,181,344 to Tarpenning et al. ("Tarpenning")
Ex-1010	U.S. Patent Application Publication No. 2001/0035880 to Musatov et al. ("Musatov")
Ex-1011	U.S. Patent Application Publication No. 2002/0149569 to Dutta et al. ("Dutta")
Ex-1012	U.S. Patent Application Publication No. 2003/0013483 to Ausems et al. ("Ausems")
Ex-1013	U.S. Patent No. 6,249,277 to Varveris ("Varveris")
Ex-1014	U.S. Patent No. 6,344,848 to Rowe et al. ("Rowe")
Ex-1015	U.S. Patent No. 6,388,870 to Canova Jr. et al. ("Canova")
Ex-1016	U.S. Patent No. 7,081,882 to Sowden et al. ("Sowden")

Exhibit	Description
Ex-1017	U.S. Patent No. 5,347,295 to Agulnick et al. ("Agulnick")
Ex-1018	Declaration of Rachel J. Watters
Ex-1019	Declaration of Kelley M. Hayes Greenhill
Ex-1020	Wisconsin MARC Record for Robertson, *available at* https://wrlc-gu.primo.exlibrisgroup.com/discovery/sourceRecord?vid=01WRLC_GUNIV:01WRLC_GUNIV&docId=alma9911002247004101&recordOwner=01WRLC_NETWORK (last visited May 26, 2021)
Ex-1021	Library of Congress MARC Record for Robertson, *available at* https://catalog.loc.gov/vwebv/staffView?searchId=16367&recPointer=0&recCount=25&bibId=11489112 (last visited May 27, 2021)
Ex-1022	U.S. Copyright Office Record, *available at* https://cocatalog.loc.gov/cgi-bin/Pwebrecon.cgi?v1=8&ti=1,8&Search%5FArg=Proceedings%20of%20the%20ACM%20Symposium%20on%20User%20Interface%20Software%20and%20Technology&Search%5FCode=TALL&CNT=25&PID=S5YOB6rlECB6M_LEJD300IQpy&SEQ=20210527133326&SID=3 (last visited May 27, 2021)
Ex-1023	WorldCat Record for OCLC Control Number 28864712, *available at* https://www.worldcat.org/title/proceedings-of-the-acm-symposium-on-user-interface-software-and-technology/oclc/28864712 (last visited June 2, 2021)
Ex-1024	WorldCat Record for OCLC Control Number 270712133, *available at* https://www.worldcat.org/title/proceedings-of-the-acm-symposium-on-user-interface-software-and-technology-hilton-head-south-carolina-usa-november-11-13-1991/oclc/270712133 (last visited June 2, 2021)

Exhibit	Description
Ex-1025	*Neonode Smartphone LLC v. Apple Inc.*, No. 6:20-cv-00505-ADA, Docket No. 40, Order Granting Stay (W.D. Tex. Dec. 8, 2020)
Ex-1026	*Neonode Smartphone LLC v. Samsung Electronics Co. Ltd.*, No. 6:20-cv-00507-ADA, Text Order Granting Stay (W.D. Tex. Dec. 11, 2020)
Ex-1027	Excerpts from Robert W. Scheifler & James Gettys, X Window System, Version 11, Release 5 (Digital Press 3d ed. 1992)
Ex-1028	U.S. Patent No. 5,745,116 to Pisutha-Arnond ("Pisutha-Arnond")
Ex-1029	U.S. Patent No. 5,644,628 to Schwarzer et al. ("Schwarzer")
Ex-1030	Teleconference Transcript of Conference Call with Board dated November 8, 2021
Ex-1031	Deposition transcript of Craig C. Rosenberg, Ph.D. (July 7, 2022)
Ex-1032	Second Declaration of Jacob O. Wobbrock, Ph.D.
Ex-1033	Excerpt from *Newton's Telecom Dictionary* (CMP Books 17th ed. 2001) (definition of "desktop")
Ex-1034	Except from *Barron's Dictionary of Computer and Internet Terms* (Barron's Educational Series, Inc. 7th ed. 2000) (definition of "desktop")
Ex-1035	HP 620LX/660LX Palmtop User Guide (Hewlett Packard 1st ed. May 1998)
Ex-1036	NEC MobilePro 790 User's Guide (NEC Computers Inc. Mar. 2001)
Ex-1037	Excerpts from IBM ThinkPad 760E, 760ED, or 769EL User's Guide (International Business Machines Corp. Sept. 1996)
Ex-1038	Introducing Microsoft Windows 95 (Microsoft Corp. 1995)

Exhibit	Description
Ex-1039	Mohan Rajagopalan et al., *Profile-Directed Optimization of Event-Based Programs*, Proceedings of the ACM SIGPLAN 2002 Conference on Programming Language Design and Implementation (PLDI'02), June 17-19, 2002, pp. 106-116 (ACM 2002)
Ex-1040	William R. Hamburgen et al., *Itsy: Stretching the Bounds of Mobile Computing*, Computer, Vol. 34, No. 4, pp. 28-36 (IEEE Apr. 2001)
Ex-1041	Noboru Kamijoh et al., *Energy trade-offs in the IBM Wristwatch computer*, Proceedings of the Fifth International Symposium on Wearable Computers, Oct. 8-9, 2001, pp. 133-140 (IEEE 2001)
Ex-1042	Excerpts from PowerBook Getting Started (Apple Computer, Inc. 1994)
Ex-1043	File history to U.S. Patent Application No. 16/796,880
Ex-1044	Deposition transcript of Magnus Goertz (June 2, 2022)
Ex-1045	Deposition transcript of Thomas Eriksson (June 3, 2022)
Ex-1046	Deposition transcript of Marcus Bäcklund in IPR2021-00145 (Nov. 30, 2021)
Ex-1047	Deposition transcript of Ulf Martensson in IPR2021-00145 (Dec. 3, 2021)
Ex-1048	Nichole Lee, Neonode N2 – black (unlocked) review: Neonode N2 – black unlocked, CNET (Jan. 23, 2008), *available at* https://www.cnet.com/reviews/neonode-n2-black-unlocked-review/ (last accessed July 8, 2022)

I. Introduction

Neonode's Patent Owner's Response (Paper 29, "POR") disputes the Petition's (Paper 1, "Pet.") showings only as to independent claim 1, and does not separately argue any dependent claim. Neonode fails to rebut the Petition's obviousness showings for both the Robertson grounds and Tarpenning grounds. Neonode's secondary considerations arguments lack a nexus to the claims and, if considered, cannot overcome Petitioner's strong obviousness case.

II. The Robertson Grounds Render Obvious the Challenged Claims

A. Robertson Is Analogous Art

Neonode wrongly argues that Robertson is not analogous art based on Neonode's misunderstanding of the '879 patent's field and Robertson. POR 18-31. Robertson satisfies both of the alternative tests for analogous art, which are "broadly" construed. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010).

1. Robertson is in the same field as the '879 patent

Neonode contends the '879 patent's field is "a user interface for a mobile handheld computer unit." POR 22 (quoting Ex-1001, 1:6-7). The Petition explains that Robertson is in this same field because it describes a "user interface toolkit" with "pen-based gestural input," which POSITAs would have understood describes mobile handheld computers (e.g., PDAs and laptop computers). Pet. 12-18;

Ex-1005, Abstract, § 3.1. Petitioner's expert explained that POSITAs would have understood Robertson relates to gesture-based user interfaces on many platforms and applies broadly because X Windows is merely an example platform. Ex-1003, ¶¶93, 96; Ex-2018, 60:18-61:9.

Neonode's narrow interpretation that the field is "small" devices for "one hand only" use by "inexperienced users" lacks support. POR 21-25. The '879 patent's "technical field," contrary to Neonode's interpretation, broadly refers to a "user interface for a mobile handheld computer unit" and includes within its field laptop computers and PDAs, two-handed use via a stylus or pointer, and any users. Ex-1001, 1:6-9, 1:24-33, 1:65-2:14, 6:13-15; Paper 19 ("D.I."), 35 n.10. The "technical field" *never* refers to "small" devices, "one-handed" use, or "inexperienced users." Ex-1001, 1:6-20. Even if some examples disclose small, one-handed devices, that does not limit the patent's field, given the contrary examples.

Robertson is in the same field. Pet. 13-14. Neonode does not dispute that Robertson relates to a user interface for computers, including touchscreen gesture activations, but instead argues a misunderstanding of "desktop" to dispute whether Robertson relates to a mobile handheld computer unit. POR 25-26. Robertson does because it describes the desktop as the user-interface screen. Pet. 13; Ex-1003, ¶¶83-84; Ex-1032, ¶¶17-20, 22. "Desktop" in computer terminology refers to the

on-screen interface—"[t]he screen layout, the menu bar, and the program icons associated with the machine's operating environment"—not a hardware desktop computer system, as Neonode asserts. Ex-1033; Ex-1034 ("desktop" is "the whole computer screen, representing your workspace"); Ex-1032, ¶21; Ex-1031, 14:19-15:10. A POSITA would have understood that "desktop" in Robertson also refers to the on-screen interface, not the physical hardware, because it describes the buttons being "on" the desktop screen. Ex-1032, ¶¶17-20, 22. As Petitioner's expert explains, many small mobile handheld devices, including PDAs and laptops, refer to the on-screen user interface as a "desktop" in the same way as Robertson. Ex-1032, ¶¶22-25. For example, the HP 620LX and NEC MobilePro 790 handheld devices, and the IBM ThinkPad and Apple PowerBook laptops, all refer to the on-screen user interface as a "desktop." Ex-1032, ¶¶22-25.

The prosecution history of related Application No. 16/796,880 confirms that Robertson is in the same field. There, the examiner explained Robertson is in the same field of endeavor when rejecting the pending claims reciting a "portable handheld … computer device" over Robertson's gliding gesture. Ex-1043, 1246-1247, 1256. Neonode did not dispute the examiner's analogous art finding. Ex-1043, 1315, 1312-1313; *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1096 (Fed. Cir. 2013) (applicant's failure to challenge examiner's finding weighed against later assertions by patentee).

Robertson is analogous prior art.

2. Robertson is reasonably pertinent to the '879 patent's problem

Robertson also satisfies the second, alternative test.

Neonode alleges multiple "problem[s]" for the '879 patent. POR 28-29. Robertson need only be "reasonably pertinent to *one*[1] … [of those] problems" to be analogous art, "even if there are significant differences" between the references. *Donner Tech., LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1361 (Fed. Cir. 2020); *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1380 (Fed. Cir. 2007).

Robertson is reasonably pertinent at least to Neonode's alleged "problem[s]" of (1) creating a "simple" user interface and (2) a user interface that can handle large and different amounts of information. POR 28.

First, Robertson describes a "user interface toolkit" having gesture-activated buttons that "are selected by simple … pen gestures" and "invoked by a simple interaction" using a "style of interaction [that] is familiar to everyone." Ex-1005, §§ 1-1.1, 3-3.1; Pet. 5, 12-14. This is reasonably pertinent to creating a "simple" user interface.

[1] All emphases added, unless indicated otherwise.

Second, Robertson's "pen-based gestural input[s]" meet end-user needs by creating "simple" and "familiar" interactions for many different kinds of applications, such as phone, printer, and document applications. Ex-1005, §§ 1-1.1, 3-3.1; Pet. 5-6, 32. Creating simple, familiar activation gestures for different applications is reasonably pertinent to handling large amounts of information by making it easy and intuitive to access. Pet. 5-6, 12-14.

Neonode's argument that Robertson's buttons can have multiple functions does not change the outcome. POR 29. As explained in Section II.C, claim 1 covers multiple-function or multi-action buttons and is not limited to a "single-action button," which is recited in dependent claim 17. Further, Neonode's unduly narrow interpretation regarding one-handed use, "small" devices, and "inexperienced" users (POR 22-25) is contradicted by the '879 patent (*supra* § II.A.1).

Neonode's cited cases are distinguishable. In *In re Clay*, 966 F.2d 656, 659-60 (Fed. Cir. 1992), the patent concerned a problem of "dead volume" in tanks for *storing refined petroleum*, which was different from plugging *underground geological formation anomalies*. Here, the '879 patent and Robertson are both concerned with using gestures to create simple user interfaces. POR 28-29; Pet. 5, 12-14: Ex-1005, §§ 1-1.1, 3-3.1. In *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 864-65 (Fed. Cir. 1993), the prior art industrial controller "*could not*

be used" with the patent's personal computers. In contrast here, Robertson's user interface is pertinent to creating "simple," "familiar" gestural inputs for mobile handheld computer units, such as laptops and PDAs, like the '879 patent. Ex-1005, § 1-1.1; Pet. 16. And, unlike *Polygroup v. Willis Electric Co.*, IPR2016-01610, Paper 187, 38 (Feb. 26, 2018), Petitioner here provided ample explanation regarding Robertson's pertinence, including that Robertson provides a "simple, configurable multi-function user interface" and can handle large amounts of information. Pet. 5-8, 16, 25-28, 30-32.

Neonode incorrectly characterizes *SCHOTT Gemtron v. SSW Holding Co.*, IPR2014-00367, Paper 62, 17 (May 26, 2015) (emphasis in original), as requiring the prior art to be pertinent to the "*entire problem*" of the challenged patent. But the prior art need only be reasonably pertinent to a "particular problem" to be analogous art. *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (citation omitted). The Federal Circuit explained this means reasonably pertinent to "*one* … of the problems" of the challenged patent even if there are "significant differences" overall. *Donner*, 979 F.3d at 1361.

Robertson is reasonably pertinent to at least two of Neonode's alleged problems and is analogous art.

B. Robertson Discloses the "Gliding … Away" Limitation

Neonode's "gliding … away" argument relies on an unsupported construction of "gliding" that, if accepted, renders the claims invalid for lack of written description. Robertson discloses the same movement gesture as the '879 patent and discloses the claimed "gliding … away" limitation. Pet. 25-29.

1. The '879 patent lacks written description for Neonode's construction

Neonode argues that "gliding" is a single, specific type (species) of broad "movement" category (genus). POR 32-35. Accepting Neonode's argument renders all claims invalid for lack of written description and cannot be correct. *Ruckus Wireless, Inc. v. Innovative Wireless Sols., LLC*, 824 F.3d 999, 1004 (Fed. Cir. 2016) (declining construction that "would likely render the claims invalid for lack of written description").

The '879 patent describes only generic "movement" or "moving" for activating a function. Ex-1001, 2:10-14, 4:7-11. It never describes "gliding" or any other specific type of movement, let alone distinguishes "glide" and "flick" movements. "Gliding" was added by amendment years after the original filing. Ex-1002, 317. The applicant's only alleged support for the amendment informs the meaning, and the applicant relied only on disclosures of "movement" generally, not "gliding." Ex-1002, 338. Moreover, there is no discussion of "gliding" being

significant. Ex-1002, 334-341. Any interpretation other than "movement" renders the claim invalid. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1346 (Fed. Cir. 2013) (claims invalid where specification disclosed only broad genus, but claim recited particular species); *D Three Enters., LLC v. SunModo Corp.*, 890 F.3d 1042, 1050-51 (Fed. Cir. 2018) (POSITA's knowledge of alterations cannot suffice for written description).

Neonode's expert also could not delineate the boundary between these two movements and explained that whether a gesture is a "flick" or "glide" depends on how the system is configured, further confirming Neonode's construction is wrong and arbitrary. Ex-1031, 27:15-29:6, 31:15-32:12. Moreover, Neonode's expert admitted that where the '879 patent discusses movement speed, it does so unrelated to claim 1's claimed function activation. Ex-1031, 34:24-35:17; Ex-1001, 2:61-67, 5:33-35.

The prosecution history also does not support Neonode's construction. The applicant never distinguished "gliding" from other gestures or movement generally, and in fact equated other gestures with a "glide." Ex-1002, 496-497 (equating "drag" and "glide"). The examiner also continued to search "flick" as relevant after the amendment. Ex-1002, 381, 482, 585.

Neonode's citation to its after-arising N2 advertisement (POR 33-34) is not relevant because it was used to distinguish "the representation of the function is not

relocated or duplicated during the gliding" limitation, not between "gliding" and another movement type (Ex-1002, 258, 611-612).

To avoid invalidation, "gliding" includes "moving," the only disclosure in the '879 patent.

2. Robertson's "flick" gesture discloses the "gliding … away" limitation under the plain meaning and under Neonode's construction

If Neonode's construction is rejected, Neonode does not challenge the Petition's showing that Robertson teaches the "gliding … away" limitation. POR 35-44; Pet. 25-29.

Neonode's expert admitted that both flick and glide gestures start at a touched location and move away from the touched location while continuing to touch the screen, as taught by the '879 patent and explained in the Petition. Ex-1031, 21:4-22:6, 36:2-12; Pet. 25-29.

Neonode's argument is based solely on its improper construction of "gliding," which should be rejected. *Supra* § II.B.1. Neonode argues arbitrary differences in speed and duration of movement (e.g., "glide" is a "smooth," "effortless" motion, while "flick" is a "sudden," "sharp," "jerky" motion) (POR 35-36), but Neonode's expert admitted that the distinction is arbitrary and he could not identify the boundary between these motions because "flick" or "glide" classification depends on the system configuration, and the argument lacks support

in the '879 patent. Ex-1031, 27:15-29:6, 31:15-32:12. Neonode's citations to general-purpose dictionaries are unavailing because they are either after-arising[2] or improperly contradict the intrinsic record, which describes only "movement" without regard to speed or distance. *Eon Corp. IP Holdings v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1320-21 (Fed. Cir. 2016); *Profectus Tech. LLC v. Huawei Techs. Co.*, 823 F.3d 1375, 1380 (Fed. Cir. 2016) (extrinsic evidence may not be used to contradict intrinsic record); *Seabed Geosolutions (US) Inc. v. Magseis FF LLC*, 8 F.4th 1285, 1287 (Fed. Cir. 2021) (extrinsic evidence is improper when "the meaning of a claim term is clear from the intrinsic evidence").

Even under Neonode's improper construction, Robertson teaches the "gliding … away" limitation because Robertson discloses that the "flick" gesture starts by touching inside a button and moving away from the touched location, as described in the '879 patent. Pet. 25-28; Ex-1003, ¶¶105-110. Robertson does not place any boundary on the speed or duration of its gestures, and Neonode identifies

[2] Neonode's citations to development guides dated two decades after the 2002 priority date are improper and irrelevant because they do not describe the terms in 2002. POR 39-40 (citing Ex-2022 (dated 2022); Ex-2025 (same); Ex-2027 (same); Ex-2029 (same); Ex-2023 (dated 2020); Ex-2026 (same); Ex-2028 (dated 2021)).

none to distinguish it from the '879 patent. Moreover, Neonode's expert's admission that the distinction between "flick" and "glide" is arbitrary because a "flick" or "glide" classification depends how the system is configured refutes Neonode's position. Ex-1031, 27:15-29:6, 31:15-32:12.

Neonode's assertion that Robertson's flick gesture is "not intended to … move[] outside of the [b]utton" (POR 43-44 (citation omitted)) is contradicted by Robertson's disclosure that the gesture can move outside the button and should be disregarded. Ex-1005, § 4.2; Pet. 25-28; Ex-1003, ¶¶105-110. Neonode's attempt to distinguish "flick" from a "drag-and-drop" gesture is also irrelevant. POR 44. Robertson describes activating the "dialphone" function using a "flick," meeting the touch-then-glide limitation. Pet. 25-29. Whether a drag-and-drop may also be defined for other buttons is irrelevant.

Robertson therefore teaches the claimed "gliding … away."

3. Robertson's "insert" gesture discloses the "gliding … away" limitation

Neonode's arguments that Robertson's "insert" gesture does not disclose the "gliding … away" limitation are largely the same as for "flick" (POR 47-50) and fail for the same reasons as explained in Section II.B.2. Neonode's argument regarding the size is also irrelevant because neither Robertson nor the '879 patent is size-constrained.

4. Robertson's "insert" gesture activates a represented function

Neonode incorrectly argues that Robertson's button does not "represent" the button editor function activated by the touch-and-glide insert gesture. POR 45-47. Neonode does not explain why Robertson's phone button cannot represent more than one function. Claim differentiation specifically permits multi-function buttons because claim 17 limits the claim to the button representing only one function. *Compare* Ex-1001, claim 1, *with* Ex-1001, claim 17.

The phone button represents the phone button editor function because the insert gesture on the phone button activates *only* the phone button editor and is specific to that button. Pet. 23-24.

Neonode's argument appears to be that the button must visibly show or identify the function, but that is contradicted by the '879 patent. POR 45-46. In the patent, function 21 is an "application dependent function" that varies for each application, but always shows the same "+" icon without visibly identifying the different application-dependent functions. Ex-1001, 4:4-6, FIG. 1. Neonode's citations to the patent do not rebut this and, in fact, *rely* on this same disclosure that the activated function is "represented" without being identified. POR 45 (citing Ex-1001, 4:4-6). Robertson's phone button represents the activated phone button editor function, consistent with the '879 patent's disclosure. Pet. 19-22.

C. Robertson discloses the "one option" limitation

Neonode does not dispute that Robertson discloses only one option for activating Robertson's "dialphone" function and one option for activating Robertson's phone-button editor function under the plain claim language.[3]

Neonode instead wrongly argues that "wherein the representation consists of only one option for activating the function" prohibits the representation from having "multiple options to choose from in terms of *what to activate*"—that is, that the representation represents *only one function*. POR 50, 52-53.

Neonode's interpretation is contradicted by the claim language, which states that there is "only one option *for activating* the function," not that there is only one function to activate. Ex-1001, 6:51-52. Claim differentiation also rebuts Neonode's argument because dependent claim 17 limits the representation to having only one function. Ex-1001, claim 17. *InterDigital Commc'ns, LLC v. ITC*, 690 F.3d 1318, 1324-25 (Fed. Cir. 2012); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc). Neonode's interpretation also contradicts the specification, which discloses "application dependent function" 21 being different "depending on the

[3] Neonode's expert acknowledged that Robertson's gestures on the phone button activate different functions (Ex-1031, 45:24-47:4), as Petitioner's expert also explained (Ex-1003, ¶¶103-104).

current active application," and thus has multiple different functions. Ex-1001, 4:4-5, 4:12-15.

Neonode's prosecution history arguments regarding Hirshberg are also unavailing. POR 52 (citing Ex-1002, 542). There, the applicant distinguished Hirshberg because it had multiple options—both glide and "conventional touch"—to activate the same function depending on whether the device is in a single- or multi-function mode. Ex-1002, 541-542. The applicant did not distinguish the claims based on multiple functions with a single activation each. *See* Ex-1002, 540-544.[4]

Even if claim 1 is limited to representing only one function, the Petition explains that this would have been obvious for claim 17, which the POR does not challenge. Pet. 46-47.

[4] In a continuation application, the Office found that Neonode's "one function" interpretation lacked written description support. Ex-1043, 1243-1244. Applicant did not disagree and abandoned the application.

D. Robertson and Maddalozzo Render Obvious the Preamble[5]

1. Robertson and Maddalozzo render obvious "a mobile handheld computer unit"

a. Robertson's gesture activations apply to mobile handheld computer units

The Petition shows that a POSITA would have understood Robertson's gesture activations applied to any device having gesture-based inputs, including mobile handheld computer units, such as laptops, PDAs, and cell phones. Pet. 12-19. Neonode also does not dispute that a POSITA would have known that Robertson's "pen-based gestural input[s]" were methods of inputting commands to mobile handheld computer units. Pet. 13.

Neonode instead argues that Robertson does not disclose "a mobile handheld computer unit" because Robertson uses the word "desktop." POR 56-58. Neonode is wrong because "desktop" refers to the on-screen user interface, not a physical desktop computer. Ex-1032, ¶¶17-25. Neonode's expert acknowledged this on cross-examination. Ex-1031, 14:19-15:10.

[5] Petitioner "does not concede the preamble is limiting." Pet. 12 n.1. Neonode must show it is. *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002).

In computer parlance, "desktop" generally refers to the on-screen user interface work area and was a commonly used term for mobile handheld computer units, such as laptops and PDAs. *Supra* § II.A.1; Ex-1032, ¶¶17-25. Neonode has not shown anything contrary in Robertson.

Neonode's argument that Robertson's many "programming languages are not *exclusively*, or even *likely*, implemented on a mobile handheld computer unit" (POR 58) is wrong and irrelevant. Neonode's argument tacitly acknowledges that such gestures were (e.g., nonexclusively) used in mobile handheld computers, as explained in the Petition. Regardless, there is no requirement that a claim element must be "exclusive[]" or "likely"; it only needs to be known or obvious. *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1366 (Fed. Cir. 2018).

Neonode does not challenge the D.I.'s finding that the '879 patent defines "mobile handheld computer unit" as including laptop computers and PDAs. Laptop computers used the same operating systems as desktop computers and even used X Windows, rendering Neonode's argument baseless. Ex-1032, ¶¶26-28, 31-32; Ex-1039. Compaq's credit-card-sized Itsy device and an electronic watch also implemented X Windows in touchscreen mobile handheld computer devices. Ex-1032, ¶¶ 29-30; Ex-1040; Ex-1041. Regardless, obviousness "does not require an actual, physical substitution of elements," and the Petition explains that Robertson's user-interface gestures would have been applied to well-known

gestural devices, such as laptops and PDAs. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012); Pet. 12-19.

b. A POSITA would have found it obvious to implement Robertson's gesture activations in mobile handheld computer units

Neonode is wrong that the Petition fails to show a POSITA "would have implemented Robertson's Xbuttons in Maddalozzo's device." POR 58-62. As an initial matter, the D.I. already rejected Neonode's argument as "misunderstand[ing]" the Petition. D.I. 35-36. As acknowledged by the D.I., Robertson teaches all of claim 1, except the express type of mobile device, and Maddalozzo identifies "common[]" touchscreen mobile handheld devices (e.g., laptops and PDAs) that a POSITA would have found it obvious to implement Robertson's teachings on because they used the same Unix and X-based software. D.I. 35-36; Pet. 14-19; Ex-1006, 1:12-35.

Neonode's argument incorrectly states the law and argues there can be no motivation to combine because Maddalozzo "already provides a simple, user friendly interface," is functional in itself, and no "deficiency" has been identified. POR 60-61. Neonode is wrong; there is no requirement to show a "deficiency" or that the prior art system is nonfunctional. To the contrary, a patent challenger "*does not need to show* that there was a known problem with the prior art system in order to articulate the required rational underpinning for the proposed

combination." *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1002-03 (Fed. Cir. 2016). Neonode does not address the Petition's combination, which does not rely on Maddalozzo's *interface*, but rather Maddalozzo's disclosure of mobile computers running the same Unix and X-based systems, on which Robertson's interface would have been implemented. Pet. 14-19. Because Robertson's gesture-activated interface improves any touchscreen-activated devices, like laptops and PDAs, a POSITA would have found it obvious as a matter of law to improve the same and similar devices in the same way. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

2. Robertson teaches and Maddalozzo renders obvious computer program code being "read by a mobile handheld computer unit"

Neonode is wrong that Petitioner did not argue that Robertson teaches computer program code being read by a mobile handheld computer unit. POR 62-65. The Petition explains that a POSITA would have understood Robertson's interface code would be stored on the device or the device "would not function." Pet. 12-14; Ex-1003, ¶¶81-82, 85.

Maddalozzo also "confirms and renders obvious" this teaching. Pet. 14-15; Ex-1003, ¶85.

Neonode wrongly argues that Robertson uses a client-server architecture that does not store the computer program code on the same device displaying the user

interface. POR 62-65. The Petition explains that the X client and server for Robertson's interface "*usually* run[]" and "reside *on the same machine*" using "shared memory." Ex-1027, 34, 51; Ex-1003, ¶115. Even if Neonode is correct that *some code* could be stored elsewhere, that is irrelevant. Pet. 13-14; POR 62-64.

The Petition also explains that Robertson's teachings are not limited to X Windows, and Neonode does not disagree that other implementations store code on the same device or it would have been obvious to do so. Pet. 17-18.

Regardless, merely moving the location storage and execution from an external location to the mobile handheld computer unit (e.g., laptop, PDA) is obvious as a matter of law. *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1338-42 (Fed. Cir. 2020).

III. The Tarpenning Grounds Render Obvious the Challenged Claims

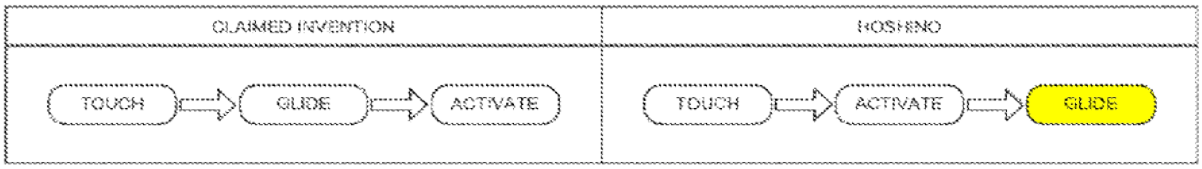
A. Tarpenning Discloses "Gliding … Away"

Neonode wrongly attempts to distinguish Tarpenning's touch-then-glide gesture from the claimed "gliding" by calling it a "drag[]." POR 67-69. But Neonode's own expert testified that a "drag" is the same as a "glide" because the pen is "moved … across the screen like a glide." Ex-2019, ¶90.

Neonode is also wrong that Tarpenning's touch-then-glide hotkey assignment gesture does not activate a function. POR 67-68. As the Petition explains, Tarpenning activates the *assignment* function (the system starts

determining whether a new function has been assigned) *because* of the touch-then-glide gesture. Pet. 78-80. This also accords with Neonode's expert's explanation that "function" is a very broad term. Ex-1031, 45:24-47:4. Neonode argues that touch-then-glide does not activate the *already-assigned* function (POR 67-68), but this is a non-sequitur because it looks at the wrong function.

The prosecution history (POR 69) confirms that Tarpenning discloses the claimed gliding. Neonode misleadingly omits the "Function Activation" row from the prosecution history, where the applicant argued that Hoshino's "Function Activation"—at issue here—is activated by a "hard touch" *before* the "glide" (drag) occurs, whereas the claimed "activat[ion]" occurs "*after* the glide." Ex-1002, 497. Contrary to the POR, Neonode specifically called Hoshino's "drag" a "glide" action. *Id.*



Function activation operation of claimed invention vs. that of Hoshino

Some distinctions between claimed invention and Hoshino		
	Claimed invention	**Hoshino**
Objective	Novel touch-and-glide user interface operation	Discriminate between two conventional operations; namely, (1) touch, and (2) drag-and-drop
Hardware	Touch screen	Touch screen with pressure sensor
Function Activation	In response to both steps of a multi-step operation; namely, (1) touch, followed by (2) a glide	In response to hard touch

Id. (annotations added).

Neonode also distinguished Hoshino based on "moving an icon," which is not present in Tarpenning, and the POR does not allege that it is. Ex-1002, 498; POR 65-74.

Tarpenning's "drag[]" is a "glide" action that activates the "assignment" function. Pet. 76-80.

B. A POSITA Would Have Modified Tarpenning as Claimed

Neonode fails to rebut the Petition's showing of a motivation to activate the menu icons using Tarpenning's already-disclosed touch-and-glide action.

First, Neonode argues that "[n]othing *in Tarpenning* hints at an accidental activation concern." POR 70-71. This argument applies the incorrect teaching-suggestion-motivation test rejected by *KSR*. As Petitioner's expert explains, a touch-only activation can lead to accidental activation, whereas touch-then-glide is intentional to achieve the desired action, making accidental

activation less likely. Ex-1003, ¶221. Neonode argues that Tarpenning's icons are "recessed" and accidental activation "is unlikely," but even if true, "unlikely" cannot dismiss this known problem. POR 71. A POSITA would have understood that touch-then-glide is less likely to result in accidental user action, compared with a touch-only activation. Ex-1003, ¶221.

Second, Neonode wrongly argues there is no evidence why a POSITA would select touch-then-glide. POR 71. Petitioner's expert explains a POSITA would have used touch-then-glide activation because it is *already described* in Tarpenning. Ex-1003, ¶¶217-218. Neonode's alleged "drawbacks" that holding the device with both hands exactly as shown in FIG. 2 *may* be awkward for some users (POR 71-72) are rebutted by Neonode's acknowledgement that the "typical" way to hold Tarpenning's device is with one hand and using the other hand to perform the touch-then-glide gesture—just like the touch-then-glide assignment function disclosed in Tarpenning (POR 73-74). Regardless, even if there are design tradeoffs, they do not obviate Petitioner's motivation. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006).

Neonode's assertion that a "tap" is faster to *open* the menu (POR 73-74) does not rebut the Petition's showing that touch-then-glide is more efficient *overall* to *select* a menu item in one continuous operation, rather than two separate tap

operations (Pet. 82-83). Moreover, the '879 patent specifically contemplates using a stylus to select menu items by moving along the menu. Ex-1001, 6:13-15.

The Petition provides explicit reasons and motivations why a POSITA would have modified Tarpenning. Pet. 82-84. Neonode disagrees whether the modification is a better option, but that does not obviate obviousness. *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197-98 (Fed. Cir. 2014).

IV. The Dependent Claim Are Unpatentable

Neonode does not argue that claims 2-7, 9, 12-13, and 15-17 are separately patentable and waived any challenges to unpatentability of these claims. Paper 20, Scheduling Order, 9.

V. Neonode's Secondary Considerations Do Not Overcome Obviousness

Neonode does not allege unexpected results, copying, skepticism, unresolved need, or failure of others. Nor could it. Neonode did not invent touch-then-glide activations, and the operation functions exactly as expected in the prior art. Ex-1044, 37:2-13, 18:9-17.

Neonode's two theories, industry praise (POR 4-16) and commercial success/licensing (POR 16-17), are based solely on the touch-then-glide activation of claim 1.[6] Both lack merit. Even if found, Neonode's predictable use of prior art

[6] Neonode does not allege praise based on any other claim.

functions cannot, as a matter of law, overcome obviousness. *Wyers*, 616 F.3d at 1246.

There is also no nexus with the claims—presumption or otherwise. The Board already found a lack of nexus and failure to establish commercial success and industry praise for similar claims, based on essentially the same evidence. *Samsung Elecs. v. Neonode Smartphone*, IPR2021-00145, Paper 71, 40-50 (July 6, 2022). It should do so again here.

A. There Is No Nexus with the Claims

Neonode does not argue a presumption of nexus. *See* POR 4-17. There can be no presumption because the N1/N2 phones contain numerous features, including the also-patented zForce touchscreen. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988). Without such presumption, Neonode must show that industry praise and commercial success are *specifically* tied to the claimed invention. *Id.* As explained below, it cannot.

1. The N1/N2 phones do not practice every claim limitation

Neonode cannot show nexus because the N1/N2 lack at least two claim elements.

Neonode has not established that the icons activate *only* on a "glide" as opposed to any "movement" (e.g., flick or glide). Neonode's video (Ex-2020)

appears to show "flick" gestures under Neonode's interpretation because they are short, jerky movements.

Neonode's phones do not include the "representation of the function is not relocated or duplicated during the gliding" because the icon (arrows) is duplicated during the gliding, as shown below. POR 33 (describing "representation" in Neonode phones as "menu item *with an arrow*"); Ex-1044, 151:20-152:14, 153:2-13 (arrow is representation).

Ex-2024, 2, 9.

2. Neonode's phones implement other critical technology

Neonode admits that its patented "zForce" touchscreen was critical and "required" to implement the N1/N2 user interface. Ex-2061, ¶5; Ex-2014, 2 (including zForce as licensed technology). This precludes a presumption of nexus because the N1/N2 are covered by multiple patents. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1377-78 (Fed. Cir. 2019).

Neonode relies only on claim 1's touch-then-glide activation for secondary considerations (POR 4), but Neonode touted "seven available sweeps," including unclaimed ones, such as the accept/decline gestures, which also precludes a nexus (Ex-2020, 00:45-01:10).

B. There Is No Industry Praise for the Claimed Features

Neonode relies heavily on alleged praise. POR 4-16. But reactions were mixed at best. At least one reviewer found Neonode's interface "complicated" with "a very steep learning curve" and *could not recommend it*. Ex-1048, 2, 4. Much of Neonode's alleged "praise" comes from Internet commenters, not persons knowledgeable in user interface design.

Even if the purported praise is considered, it fails. Neonode argues that "gliding … away" is the "heart" of the claimed invention, but its evidence is not directed to this feature. POR 2, 66, 69. Rather, the evidence refers to the user interface generally or unclaimed features (e.g., zForce touchscreen, one-handed use), and cannot overcome obviousness. *Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 837 (Fed. Cir. 2015).

Neonode's advertising video (Ex-2020; POR 4) contains its own self-serving statements, not industry praise. *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1352 (Fed. Cir. 2010).

The *Pen Computing Magazine* articles (Ex-2013; Ex-2024; POR 7-8, 11), "User-Video" (Ex-2038; POR 12), and Hollatz dissertation (Ex-2040, 8; POR 13-14) refer to general features, such as operating Neonode's interface "entirely with your thumb" (Ex-2013, 2) and using a touchscreen as the primary input and touch gestures, and "one-handed operation" (Ex-2024, 11), which are not claimed. Ex-2038, 00:06. Generic praise not directed to claimed touch-then-glide activation does not provide a nexus. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011).

The Trend Hunter and RCR articles (Ex-2031; Ex-2035; POR 8-9) describe having "no buttons" and one-handed actions as the "main selling point," but are not directed to the claimed touch-then-glide activation. Ex-2031, 1; Ex-2035, 3. The Tnkgrl N1m video (Ex-2041; POR 14) describes "left-to-right" and "right-to-left" swipes at the top to switch tabs and the bottom (over the icons) to indicate "yes"/"no" as "very clever," the touchscreen as "very clever" and "works very well," and "interesting" "haptic" feedback, but does not praise the claimed gliding-up icon-activation functions. Ex-2041 (Part 1, 1:08-1:41, 2:47-3:05, 3:21-3:44), (Part 2, 2:05-2:32). Similarly, Tnkgrl's post (Ex-2033; POR 8-9) describes many unclaimed features.

The YouTube comments (Ex-2043–2045; POR 14-15) describe the unclaimed zForce touchscreen as the "fastest touchscreen" and a "fast &

responsive touchscreen" (Ex-2043, 2), and the gesture-based comments are generic (Ex-2044, 2; Ex-2045, 1).

Ars Technica (Ex-2042; POR 14) identified "not … [having] a hardware keypad" and "relying almost entirely on software buttons for input" as "notable features," but not the claimed touch-then-glide activation. Ex-2042, 8.

Neonode's personnel's self-serving hearsay also fails because it is generic and not directed to the claimed invention. Mr. Bystedt's statements about Samsung are untrustworthy and not relevant because Samsung spoke in Korean, which Mr. Bystedt does not understand. Ex-2061, ¶9; Ex-1045, 74:12-14, 75:4-14.

Neonode fails to establish praise for the claimed invention.

C. No Evidence of Commercial Success

Neonode's phones were not commercially successful. To the contrary, they were "so rare" that "for all practical purposes it doesn't exist." Ex-2013, 1; Ex-2024, 1 ("almost no one has ever heard of" Neonode).

Neonode alleges "tens of thousands" of sales (POR 17), but this is puffery. The evidence shows only about 9,600 sales. Ex-2054, ¶6. Of the remaining alleged 13,000 sales (*id.*), Neonode cannot identify how many were actual sales as opposed to supplier *orders*. Ex-1046, 34:21-23. Moreover, some "sales" were *Neonode* buying its phones. Ex-1047, 30:13-16. Regardless, raw "sales" numbers are insufficient to show commercial success. *In re Huang*, 100 F.3d 135, 139 (Fed.

Cir. 1996) (selling "several hundred thousand units" is not commercial success). Market share is the relevant measure, which Neonode does not provide. *In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012). Any phone that is "so rare" that "for all practical purposes it doesn't exist" cannot have enough market share to constitute commercial success. Ex-2013, 1.

Neonode also has not shown that any alleged "sales" were driven by the claimed touch-then-glide activation, as opposed to other features (e.g., zForce touchscreen), as required. *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1319 (Fed. Cir. 2015).

Regarding the Samsung license, Neonode cannot show relevance because it cannot tie the license to any claim of the '879 patent. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). The '879 patent had not issued when the license was signed. *Compare* Ex-1001, *with* Ex-2014. The license indisputably included the zForce technology and does not support commercial success. Ex-2014, 2; *Merck*, 808 F.3d at 838. No royalties appear to have been paid and no product produced, and the license appears to have expired without renewal, which suggests abandonment, not nonobviousness. Any Samsung sales (POR 16) are irrelevant because Neonode has not shown these phones practice the claims.

VI. Conclusion

Claims 1-7, 9, 12-13, and 15-17 are unpatentable.

Respectfully submitted,

Dated: July 21, 2022

/Kevin D. Rodkey/
Kevin D. Rodkey
Backup Counsel for Petitioner
Reg. No. 65,506

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that the foregoing **Petitioner's Reply to Patent Owner's Response** contains 5,599 words, excluding those portions identified in 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

Dated: July 21, 2022

/Kevin D. Rodkey/
Kevin D. Rodkey
Backup Counsel
Reg. No. 65,506

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing **Petitioner's Reply to Patent Owner's Response** was served on July 21, 2022, via email directed to counsel of record for the Patent Owner at the following:

Kenneth Weatherwax
weatherwax@lowensteinweatherwax.com

Nathan Lowenstein
lowenstein@lowensteinweatherwax.com

Parham Hendifar
hendifar@lowensteinweatherwax.com

Patrick Maloney
maloney@lowensteinweatherwax.com

Vinson Lin
lin@lowensteinweatherwax.com

Neonode_IPRs@LowensteinWeatherwax.com

Lowenstein & Weatherwax LLP
1880 Century Park East, Suite 815
Los Angeles, CA 90067

Philip J. Graves
philipg@hbsslaw.com

Hagens Berman Sobol Shapiro LLP
301 North Lake Avenue, Suite 920
Pasadena, CA

Dated: July 21, 2022

/Daniel E. Doku/
Daniel E. Doku
Litigation Legal Assistant
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP